

Appln. No. 10/797,687
Amendment dated December 27, 2005
Reply to Office Action of September 28, 2005

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. In Fig. 1, previously omitted element 27 has been added.

Attachments: Replacement sheet

Annotated sheet showing changes

REMARKS/ARGUMENTS

Reconsideration of the present application, as amended, is respectfully requested.

The September 28, 2005 Office Action and the Examiner's comments have been carefully considered. In response, claims are cancelled and added, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

DRAWINGS

In the Office Action the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because the Examiner contends that the drawings do not include certain reference numerals. In response, Fig. 1 is amended to show reference numeral "27" for the "slit-glass."

In the Office Action the drawings are also objected to because the Examiner contends that certain reference numerals included in certain drawing figures are not mentioned in the description corresponding to those figures in which they are shown. In response, Applicant respectfully states that 37 CFR 1.84(p)(5) states that reference characters not mentioned in the description shall not appear in the drawings and that reference

characters mentioned in the description must also appear in the drawings. Reference characters 14, 15, T and 62 are mentioned in the written description with regard to certain figures, but these reference numerals, while used in Figs. 2 and/or 5, are not specifically mentioned in the written description with regard to Figs. 2 and/or 5. Applicants know of no requirement that each reference numeral which is shown in a figure must be included in the written description with respect to each figure in which the reference numeral is shown. Instead, the requirement as explicitly stated above, is that reference characters mentioned in the description must appear in the drawings, and that reference characters not mentioned in the description should not appear in the drawings. Therefore, since reference characters 14, 15, T and 62 are mentioned in the written description, reconsideration and withdrawal of the Examiner's objection with regard to Figs. 2 and 5 as identified in item #3 spanning pages 2 and 3 of the Office Action are respectfully requested.

In view of the amendment of the drawings and foregoing comments, reconsideration and withdrawal of all of the objections to the drawings are respectfully requested.

SPECIFICATION

In the Office Action the disclosure is objected to because of certain informalities. In response, the disclosure is amended as requested by the Examiner. In view of the amendment of the disclosure, reconsideration and withdrawal of the objection to the disclosure are respectfully requested.

PRIOR ART REJECTIONS

In the Office Action claims 1-8 are rejected under 35 USC 103 as being unpatentable over Japanese Patent Publication No. 2002-304084 (Naohiro).

Also in the Office Action the Examiner requires that Applicants provide a complete certified English translation of Japanese Patent Publication No. 2002-304084 (Naohiro) if Applicants wish to argue against the obviousness rejection based upon Naohiro. In accordance with the Examiner's requirement, transmitted herewith is a certified English translation of the Naohiro reference.

In response to the rejection, claims 1-8 are cancelled and new claims 9-17 are added which more clearly define the present claimed invention over the cited reference.

Independent claim 9 is directed to a fixing device including:

a heating roller which applies heat onto a non-fixed toner image formed on a recording medium so as to fuse the non-fixed toner image, wherein the heating roller is rotatably supported on a shaft so that a circumferential surface of the heating roller contacts the recording medium, which bears the non-fixed toner image, while rotating; and

a temperature detecting unit that includes a temperature detecting element to detect a surface temperature of the circumferential surface of the heating roller, and a support member on which the temperature detecting element is mounted at a detecting position;

wherein the temperature detecting unit is disposed in such a manner that the support member press-contacts the circumferential surface of the heating roller at a contacting position residing on the support member in a rotating direction of the heating roller; and

wherein the detecting position is located upstream from the contacting position in the rotating direction of the heating roller.

With the present invention as defined above, since the detecting position at which the temperature detecting element is positioned is located upstream from the contacting position at which the support member press-contacts the circumferential surface of the heating roller in the rotating direction of the heating roller, it is possible to prevent residual toner from adhering onto the temperature detecting element. This results in an improvement of temperature detecting accuracy of the temperature detecting element, and in an improvement of the controllability for controlling the fixing temperature at an optimum value for obtaining a good fixed toner image for the

reasons described in the present application at page 4, line 21 to page 6, line 8. In addition, since the durability of the temperature detecting element is also improved while keeping the temperature detecting accuracy at a high level, it also becomes easier to perform maintenance of the fixing device.

The above described claimed structural features as recited in claim 9 and advantageous effects of the present claimed invention are not disclosed, taught, or suggested in the cited references.

In the Office Action, the Examiner states that THERMISTOR 30, disclosed by Naohiro, is equivalent to the temperature detecting unit recited in prior claim 1.

In response Applicant respectfully states that Naohiro completely fails to disclose detecting the position of THERMISTOR ELEMENT 33 and the concept of the contacting position of the HEAT RESISTANT SHEET 32, and the positional relationship between the detecting position and the contacting position. Naohiro fails to disclose, teach or suggest the configuration of the fixing apparatus in which the detecting position is located upstream from the contacting position in the rotating direction of the heating roller as now recited in the claims. Instead, Naohiro discloses the feature of felt attached to the end portion of the HEAT RESISTANT SHEET 32 for cleaning the residual toner adhered

to the HEATING ROLLER 40. As described in the "Background of the Invention" section of the present application, the feature of the felt attached to the end portion of the HEAT RESISTANT ELEMENT, disclosed by Naohiro, is insufficient to solve the problems of the prior art in order to realize the features and advantageous effects achieved by the present claimed invention. Therefore, THERMISTOR 30, disclosed by Naohiro, is merely prior art to the present claimed invention and does not render the present claimed invention anticipated or obvious.

In view of the foregoing, claim 9 is patentable over the cited reference under 35 USC 102 as well as 35 USC 103.

Claims 10-16 are either directly or indirectly dependent on claim 9 and are patentable over the cited references in view of their dependence on claim 9 and because the references do not disclose, teach or suggest each of the limitations set forth in claims 10-16.

Claim 17 is directed to an image forming apparatus which includes a fixing device as recited in claim 9. Claim 17 is patentable over the cited reference for reasons, inter alia, set forth above in connection with claim 9.

None of the other references of record close the gap between the present claimed invention as defined by claims 9 and 17 and Naohiro. Therefore, claims 9-17 are patentable over all of the

references of record when taken either alone under 35 USC 102 or
in combination under 35 USC 103.

* * * * *

Entry of this Amendment, allowance of the claims and the
passing of this application to issue are respectfully solicited.

If the Examiner disagrees with any of the foregoing, the
Examiner is respectfully requested to point out where there is
support for a contrary view.

If the Examiner has any comments, questions, objections or
recommendations, the Examiner is invited to telephone the
undersigned at the telephone number given below for prompt
action.

Respectfully submitted,


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Encl.: Certified English translation of Japanese Patent
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Annotated Sheet showing changes to Fig. 1
Replacement Sheet for Fig. 1



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Replacement Sheet

FIG. 1

